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Expert Opinion - Dr Prashant Shetkar

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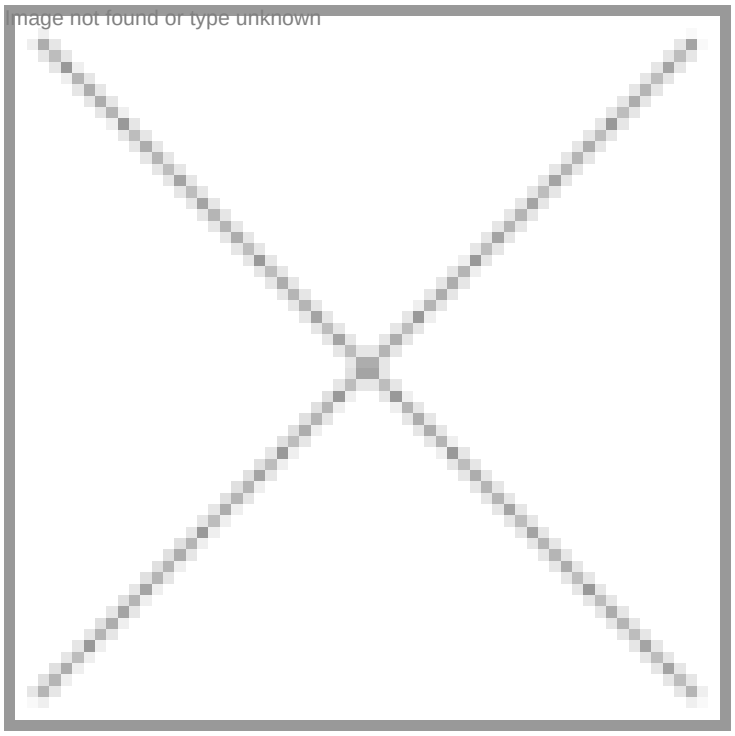

CHROMATOGRAPHY CONSUMABLES

Dr Prashant Shetkar Image not found or type unknown

Market dynamics propels growth

The number of HPLC columns supplied was estimated around 90,000 valued around $40 million in 2011

The chromatography consumables market segment mainly comprises of High Performance Liquid Chromatography (HPLC) and Gas Chromatography (GC) columns, sample preparation columns and its accessories, auto sampler vials and other accessories, and other consumables for all chromatographic applications. The chromatogra-phy consumables market in India today is estimated to be around $60 million with more than 60 percent of the total expenditure on HPLC columns segment alone and rest on other consumables.

Market for HPLC columns including speciality, chiral and preparative columns is currently estimated to be around $45 million which is followed by sample preparation market segment and almost equal shares of GC columns and auto sampler accessories market segments. It is interesting to note that this business is recording one of the highest growth rates of around 15-16 percent per annum even in the most challenging market situations since past few years. It is poised to grow at the same or even at higher pace in the coming years due

to continued growth in pharmaceutical and other related industries.

Market trends
HPLC being one of the most dynamic markets in analytical instrumentation industry is driving the growth of the columns, the requirements of which fall into four broad categories - analytical HPLC, ion chromatography, preparative HPLC and LC-MS, all growing multifold due to increasing market demands fuelled by growth in domestic markets and growing exports to regulatory markets. Hence HPLC columns are the largest segment of HPLC aftermarket. A HPLC column is considered to be the heart of the HPLC system without which no analysis is possible. Column provides a medium for interaction as a stationary phase between sample to be analyzed and mobile phase pumped by the HPLC system.

Growth drivers
HPLC column segment is rapidly growing; thanks to the continued development of newer column technologies and vast application areas. The newer developments in existing stationary phase technologies like sub 2-micron particles with fused core or core enhanced technologies, new generation hybrid particle columns, silica based/polymer based monoliths, 100 percent porous graphite carbon phases with extended pH and extreme temperature ranges, extended pH range columns and innovative mixed mode phases comprising of reversed phase characteristics of modified silica with ion exchange technology are adding newer dimensions to the HPLC applications. As mentioned earlier emerging regulatory requirements for method validation, newer application areas and higher throughput requirements to increase productivity demands of modern labora-tories are the major growth drivers for this segment.

Newer application areas resulting from the growth of the contract research and bioequivalence industry has resulted in tremendous surge in demand for LC MS MS instruments and higher throughput systems creating higher demands for shorter length and smaller particle size columns requirement fuelling tremendous growth in HPLC columns market. The rapidly evolving proteomics and other life sciences applications have propelled the growth in biotechnology industry and academia. Stringent regulatory guidelines to carry out such applications and their inclusion in upcoming monographs will result in further increase in wide pore, mixed mode and polymeric stationary phase re-quirements.

HPLC Columns The major players for HPLC columns in India in terms of their market share by value or by numbers include: Agilent, Daicel, GL Sciences, Grace, Kromasil, Merck, Phenomenex, Sigma Aldrich, Thermo, Waters and Whatman. Few of the companies such as earlier Flexit laboratories, Pune (Owned by Grace Discovery Sciences) are locally man-ufacturing HPLC columns for local as well as export markets.

Few companies are outsourcing some of the columns from international markets and promoting them as their own brand depending on the market requirements.

In view of the increased demand for preparative columns driven by requirements for iden-tification and isolation of impurities for the regulatory markets as per US-FDA guidelines, many players are looking to strengthen their product portfolio of prep columns thereby resulting in increased volume of business. In response to the similar demands for chiral columns being used for identifying, separating, isolating genotoxic and other enantiomeric impurities or molecules as per new regulations, Daicel Chemical Industries had set up a technical support and services laboratory at Hyderabad in 2007. With a view to supporting customers in method development and emerging application areas as a value addition, companies like Thermo Scientific have already set up their own applications lab known as â€œCentre of excellenceâ€? in Ahmedabad which is a recent addition to the list of already existing laboratories set up by Waters, Agilent and few other players. Some of their channel partners such as LGC Promochem, LC GC Centre for Solutions have already set up such application labs to support their business initiatives and help customers in their application areas.

The way forward
The emerging trend in consumables business is to provide a complete solution to the users which can help in establishing a long term business relationship with customers. And the present favorable market dynamics in India coupled with fast technological improvements in chromatography technique are bound to make chromatography instrumentation and consumables market one of the fastest growing markets in the years to come.

Chromatography consumables market estimates around $60 million

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head, Separation Products & Techno-Commercial Marketing, LGC Promochem.

With a PhD in Analytical Chemistry from the Royal Institute of Science, Mumbai, Prashant Shetkar holds management degree from Ashridge School of Management, UK. Before joining LGC, he was heading discovery sciences division of Grace Davison (better known as Grace Vydac) for India and South Asia territory. He began his career with Merck, as 'Product Specialist' for chromatography division. He has an overall experience of around 15 years in Analytical Industry.